

**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listing, of claims in the present patent application.

1. (Currently Amended) A method of shortening multiple image scanning duration, comprising the steps of:

setting the scanning parameters of each image in a pre-scanning operation;  
classifying the images into groups according to a categorization method including comparing at least a portion of an image with at least a portion of another image;  
assigning all images belonging to the same group to a scanning region; and  
initializing the scanning operation.

2. (Previously Presented) The method of claim 1, wherein after scanning all scanning regions, images belonging to the same scanning region are grouped together.

3. (Currently Amended) ~~A The method of claim 1, wherein the step of assigning images belonging to the same group to the same scanning region further includes the sub-steps of comprising:~~

setting the scanning parameters of each image in a pre-scanning operation;

classifying the images into groups according to a categorization method;

assigning all images belonging to the same group to a scanning region including

selecting out a first unprocessed image to serve as a contrast-scanning region;

selecting the next in line unprocessed image and comparing with the contrast-scanning region;

determining if the unprocessed image and the contrast-scanning region has a

common scanning line section;<sub>1</sub>  
integrating the selected unprocessed image and the contrast-scanning region to  
become a new contrast scanning region if the unprocessed image and the  
original contrast-scanning region has a common scanning line section;<sub>1</sub>  
assigning the contrast-scanning region to be a scanning region if the selected  
unprocessed image and the contrast-scanning region has no common  
scanning line section;<sub>1</sub> and  
repeating the aforementioned steps until all images are processed; and  
initializing the scanning operation.

4. (Currently Amended) The method of claim 1, wherein the scanning parameters  
~~includes~~ include the resolution of the image and the data quantity of the image.

5. (Original) The method of claim 1, wherein the categorization method includes  
grouping all images containing a common scanning line section together.

6. (Currently Amended) The A method of ~~claim 1~~, comprising:  
setting the scanning parameters of each image in a pre-scanning operation;  
classifying the images into groups according to a categorization method wherein the  
categorization method includes grouping all images having a number of scanning stops within a  
preset scanning stop range together;  
assigning all images belonging to the same group to a scanning region; and  
initializing the scanning operation.

7. (Original) The method of claim 1, wherein the categorization method includes grouping all images having a resolution within a preset resolution range together.

8. (Original) The method of claim 1, wherein the categorization method includes grouping all images having user-defined properties together.

9. (Currently Amended) ~~The A method of claim 1, comprising:~~  
setting the scanning parameters of each image in a pre-scanning operation;  
classifying the images into groups according to a categorization method wherein the  
categorization method ~~further~~ includes grouping the images together according to common  
scanning line sections, preset scanning stop number ranges, image resolution ranges, user-  
defined properties or various combinations of the above;  
assigning all images belonging to the same group to a scanning region; and  
initializing the scanning operation.

10. (New) A method, comprising:  
pre-scanning a first image and a second image;  
assigning the first image to a first scanning region; and  
comparing the first image with the second image to determine whether the first and  
second images have a scan line in common; and  
assigning the second image to the first scanning region if the first and second images  
have a scan line in common.

11. (New) The method of claim 10, further comprising assigning the second image to a  
second scanning region if the first and second images do not have a scan line in common.

12. (New) A method, comprising:

- selecting a first image as a first contrast-scanning region;
- comparing a second image with the first contrast-scanning region;
- determining whether there are any scan lines in common between the second image and the first contrast-scanning region; and
- integrating the second image and the contrast-scanning region to produce a new first contrast-scanning region if there is a scan line in common between the second image and the first contrast-scanning region.

13. (New) The method of claim 12, further comprising selecting the second image as a second contrast-scanning region if there is no scan line in common between the second image and the first contrast-scanning region.

14. (New) A method, comprising:

- pre-scanning a first image and a second image;
- assigning the first image to a first scanning region; and
- comparing the first image with the second image to determine whether the first and second images each have resolutions that fall within a predetermined range; and
- assigning the second image to the first scanning region if the first and second images each have resolutions that fall within the predetermined range.

15. (New) The method of claim 14, further comprising assigning the second image to a second scanning region if the first and second images do not each have resolutions that fall within the predetermined range.

16. (New) A method, comprising:  
pre-scanning a first image and a second image;  
assigning the first image to a first scanning region; and  
comparing the first image with the second image to determine whether the first and second images each have numbers of scanning stops that fall within a predetermined range; and  
assigning the second image to the first scanning region if the first and second images each have numbers of scanning stops that fall within the predetermined range.

17. (New) The method of claim 15, further comprising assigning the second image to a second scanning region if the first and second images do not each have numbers of scanning stops that fall within the predetermined range.